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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,917	08/11/2006	Frederick Ian Wood	7540-2	7872

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WOODARD, EMHARDT, MORIARTY, MCNETT & HENRY LLP
111 MONUMENT CIRCLE, SUITE 3700
INDIANAPOLIS, IN 46204-5137

EXAMINER	
CLEMENTE, ROBERT ARTHUR	
ART UNIT	PAPER NUMBER
1797	
MAIL DATE	DELIVERY MODE
08/29/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/597,917	WOOD, FREDERICK IAN	
	Examiner	Art Unit	
	ROBERT A. CLEMENTE	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 August 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20060831*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

"17" in the fifth line of the second paragraph on page 6, as in figure 3.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 2 recites the limitation "the faces" in the second line of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 - 3, 5, 6, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 6,045,600 to Michaelis et al.

Michaelis teaches a method of forming a filter unit comprised of a filter element and an encircling peripheral encasement frame to which the filter element is sealed wherein the frame is molded in situ by solidification of a liquid, solidifiable molding composition provided around the periphery of the filter element. Figure 1 of Michaelis shows the filter with a surrounding fame (4). The frame (4) forms an encircling peripheral encasement frame to which the filter media (1), or filter element, is sealed. As shown in figure 2 and discussed in column 2 lines 35 - 47, the frame is molded in situ by holding the filter media (1) in a die (9) and adding a liquefied polymer around the periphery of the filter media (1). The liquefied polymer inherently solidifies as it cools to form the frame.

In regard to claim 2, as shown in figure 2, the frame (4) is molded to partially overlie a marginal region of both faces of the filter media (1).

In regard to claim 3, as shown in the figures, the filter media (1) inherently has a front and rear face and a bounding peripheral edge. Figure 2 shows one section of a die (9) that is located around the peripheral edge of the filter media. When the die is closed it inherently seals against peripheral regions of the front and rear face and together with the peripheral edge of the filter media defines a mold cavity. The liquefied polymer, which forms a solidifiable, liquid molding composition, fills the mold cavity though a gap (3). The liquefied polymer inherently is allowed to cool and solidify, after which the die (9), or mold, is removed producing the filter shown in figure 1.

In regard to claim 5, a liquefied polymer is inherently a molten thermoplastic that solidifies on cooling.

In regard to claim 6, as shown in figure 1, the filter media (1) is arranged as a fold pack (7). Thus, the filter element of Michaelis is pleated.

In regard to claim 10, as discussed above, Michaelis teaches a filter comprising a filter element (1) and a peripheral encasement frame (4) wherein the frame has been molded in situ around the filter element.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Michaelis in view of US Patent No. 4,187,182 to Rosenberg.

Michaelis is discussed above in paragraph 6. Michaelis does not disclose using a curable resin as an alternate to the liquefied polymer to form the frame. Rosenberg discloses a box filter with two housing parts (2, 3) that form the frame of the filter. As disclosed in column 5 lines 36 - 44, thermoplastics and curable resins can both be equivalently used to form the housing parts.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute a curable resin for the thermoplastic material of Michaelis as suggested by Rosenberg since both a curable resin and a thermoplastic material are well known means in the art to form molded structural parts for filters.

10. Claims 7, 8, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Michaelis in view of US Patent No. 6,579,250 to Doherty.

Michaelis is discussed above in paragraph 6. Michaelis mainly deals with the method of forming a filter frame and does not disclose the details of the filter element (1). One of ordinary skill in the art, however, would reasonably expect that method of

Michaelis could be used with any suitable pleated filter media depending upon the desired type of filtering needed. Doherty teaches a pleated non-woven filtration media that predictably could be used in the process of Michaelis. As discussed in column 1 lines 19 - 25, pleated HEPA, ULPA, and ASHRAE filters are well known filters in the art for removing particles smaller than 10 microns.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Michaelis to include a HEPA, ULPA, or ASHREA filter element as suggested by Doherty, given the application of the filter required removing 10 micron or smaller particles.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Michaelis in view of US Patent No. 6,726,751 to Bause et al.

Michaelis is discussed above in paragraph 6. Michaelis mainly deals with the method of forming a filter frame and does not disclose the details of the filter element (1). One of ordinary skill in the art, however, would reasonably expect that method of Michaelis could be used with any suitable pleated filter media depending upon the desired type of filtering needed. Bause discloses a pleated filter element (100), as shown in figure 1, that includes a nonwoven fiber mat where activated carbon particles (13) coat the fibers (20, 21), as shown in figure 3. As sown in figure 5, activated carbon particles (18) can also be included in the cavities of the fibers. The activated carbon inherently acts as an adsorbent and will remove contaminants, such as gases, that are too small to be captured by the fibers.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Michaelis to include a filter element having activated carbon as suggested by Bause given the operating environment of the filter requires gaseous contaminants to be removed.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Other prior art references listed on the PTO-892 (Notice of References Cited) are considered to be of interest disclosing similar filters and methods of forming thereof.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT A. CLEMENTE whose telephone number is (571)272-1476. The examiner can normally be reached on M-F, 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RAC

/Duane S. Smith/
Supervisory Patent Examiner, Art Unit 1797
8-27-08